

S/N 09/945535

PATENT



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Kie Y. Ahn et al.	Examiner:	David S. Blum
Serial No.:	09/945535	Group Art Unit:	2813
Filed:	August 30, 2001	Docket:	1303.026US1
Title:	HIGHLY RELIABLE AMORPHOUS HIGH-K GATE OXIDE ZrO <sub>2</sub>		

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**INFORMATION DISCLOSURE STATEMENT**

Mail Stop RCE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(b), it is believed that no fee or statement is required with the Information Disclosure Statement. However, if an Office Action on the merits has been mailed, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 19-0743 in order to have this Information Disclosure Statement considered.

INFORMATION DISCLOSURE STATEMENT

Serial No :09/945535

Filing Date: August 30, 2001

Title: HIGHLY RELIABLE AMORPHOUS HIGH-K GATE OXIDE ZrO2

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The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

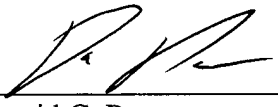
Respectfully submitted,

KIE Y. AHN ET AL.

By their Representatives,

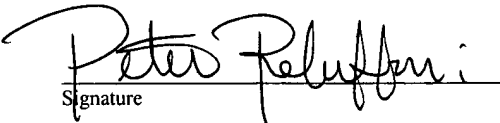
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Date 2-9-04

By   
David C. Peterson  
Reg. No. 47,857

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 9th day of February, 2004.

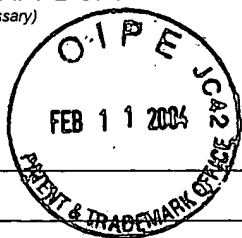
Peter Rebuffoni  
Name

  
Signature

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)



Complete if Known

Application Number	09/945535
Filing Date	August 30, 2001
First Named Inventor	Ahn, Kie
Group Art Unit	2813
Examiner Name	Blum, David

Sheet 1 of 1

Attorney Docket No: 1303.026US1

**US PATENT DOCUMENTS**

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	US-2001/0009695	07/26/2001	Saanila, Ville A., et al.	427	255.39	01/18/2001
	US-2002/0146916	10/10/2002	Irino, Kiyoshi, et al.	438	785	03/29/2002
	US-2003/0175411	09/18/2003	Kodas, T. T., et al.	427	58	10/04/2002
	US-6,093,944	07/25/2003	VanDover, R B.	257	310	06/04/1998
	US-6,451,695	09/17/2002	Sneh, O.	438	685	12/22/2000
	US-6,602,338	08/05/2003	Chen, S., et al.	106	287.19	04/11/2001

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T <sup>2</sup>
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**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		CHAMBERS, J J., et al., "Physical and electrical characterization of ultrathin yttrium silicate insulators on silicon", <u>Journal of Applied Physics</u> , 90(2), (July 15, 2001), 918-33	
		KUKLI, KAUPPO, et al., "Low-Temperature Deposition of Zirconium Oxide-Based Nanocrystalline Films by Alternate Supply of Zr[OC(CH <sub>3</sub> ) <sub>3</sub> ] <sub>4</sub> and H <sub>2</sub> O", <u>Chemical Vapor Deposition</u> , 6(6), (2000), 297-302	
		NAKAJIMA, ANRI, "Soft breakdown free atomic-layer-deposited silicon-nitride/SiO <sub>2</sub> /stack gate dielectrics", <u>International Electron Devices Meeting. Technical Digest</u> , (2001), 6.5.1-4	
		RAHTU, ANTTI, et al., "Atomic Layer Deposition of Zirconium Titanium Oxide from Titanium Isopropoxide and Zirconium Chloride", <u>Chemistry of Materials</u> , 13(5), (May 2001), 1528-1532	
		WOLF, S., et al., <u>In: Silicon Processing of the VLSI Era, Vol. 1</u> , Lattice Press, 374-380	

**EXAMINER****DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached